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not any reference to time, but a glance at several general objective connections. And of all these glances there is not one that is not merely empirical. In the three categories of relation, in especial, there is simply an assumption from experience of all that in experience the system is there to explain. In fact the whole credit of this *a priori* system is derived from the traffic with time—a traffic that, though a constant repetition of words in our ears, has not a vestige of foundation in fact. Only this traffic has been so deluding, and the enormous construction so imposingly laid out, with specious distinction after specious distinction, and plausible name after plausible name, that it was no wonder the brave, good, true, clear-minded, fertile-minded Kant took in, not the whole world (for we are "mostly fools"), but his own honest and perfectly transparent self. And having said this, we need not say what may be similarly said of the categories themselves, or any other of the main Kantian presuppositions. They are all alike—baseless contrivances (ingenious enough, laborious enough) towards the impossible realization of an equally baseless assumption.

KANT'S PRINCIPLES OF JUDGMENT.*

BY JOHN WATSON.

Still following the lead of formal logic, Kant, after considering the pure conceptions, goes on to consider the pure judgments of the understanding, or the fundamental propositions which formulate the unity of individual objects and the unity of their mutual connection. These judgments or propositions embody the last result of the investigation into the problem of critical philosophy in its positive aspect, viz.: How are synthetic judgments *a priori* possible? The materials for the final answer have already been given in the *Æsthetic*, taken along with the Deduction and Schematism of the categories, and little remains except to show in detail how the elements implied in real knowledge are joined together in a system constituting the known world. Kant, however, after his manner, goes over the old ground again, and shows, but now more in detail, on the one hand that the opposition of intelligence and nature, from which the dogmatist starts, cannot explain the actual facts of our knowledge; and, on the other hand, that we may explain knowledge when we recognize the constructive power of intelligence in nature. By a roundabout road he has come back to the problem, Hume's statement of which "roused him from his dogmatic slumber," but he has come back enriched with the spoils of a large conquest of new territory. Not only has the single question as to the application to real objects of the law of causality expanded into the comprehensive question as to the fundamental laws of nature as a whole, but the point of view from which the relations of intelligence and nature are contemplated has been completely changed. No longer does philosophy perplex itself with the irrational problem, How do we come to know objects existing as they are known beyond the confines of our knowledge? but occupies itself with the rational and soluble problem as to the elements involved in our knowledge of objects standing in the closest relations to our intelligence.

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* This article forms one of the chapters in a forthcoming work on "Kant's Theory of Knowledge."

Even in our ordinary consciousness, in which we do not think of questioning the independent reality of the world as we know it, we draw a rough distinction between objects immediately perceived and the relations connecting them with each other. Things, with their distinctive properties, seem to lie spread out before us in space, and by simply opening our eyes we apparently apprehend them as they are. On the other hand, we regard these objects as continuing to exist even when we do not perceive them, and as acting and reacting upon each other. Thus, although in an unreflective or half-unconscious way, we draw a distinction in our ordinary every-day consciousness between individual objects and their relation to one another. Moreover, the separate parts of individual objects and the degrees of intensity they display we also recognize, and we count and measure them. Corresponding to this broad distinction between objects and their relations, we have respectively the mathematical and physical sciences. Mathematics, abstracting, in the first place, from objects in space and time, fixes upon the relations of space and time themselves, and, after dealing with these abstractions, it goes on to apply the results thus reached to individual objects. The physical sciences, borrowing from mathematics its results, proceed to inquire into the connections of objects with each other. Thus, mathematics and physics deal respectively with the spatial and temporal relations of individual objects, and with their dynamical relations. It is at this point that critical philosophy begins its task. In the science of mathematics, on the one hand, and in the physical sciences, on the other hand, our knowledge of nature is systematized; and the problem of philosophy is to show what are the essential conditions of such systematic knowledge. Assuming the results of mathematics and physics to be true, the question still remains, whether nature, regarded either as a complex of individual objects, or as a system of laws, is independent of the activity of thought. This problem neither of those sciences has taken any notice of. The mathematician goes on making his ideal constructions without for a moment questioning the necessary truth of the conclusions he reaches, and therefore without attempting to show from the nature of knowledge how we can know them to be true. The physicist assumes that matter is real, and that it is endowed with forces of attraction and repulsion, expressible in mathematical symbols, but it is no part of his task to justify that assumption. But philosophy, aiming to explain the inner nature of knowledge, cannot evade the double problem: first, what justifies the supposition that mathematical propositions are necessarily true, and are applicable to the individual objects we perceive? and, secondly, what justifies us in assuming that there are real substances, real connections, and real coexistences? Now, looking more particularly at the nature of that which is known in relation to knowledge, we may further divide the known world, as perceived, into concrete objects and the spatial and temporal determinations of such objects. We may, in other words, ask what is implied in the ordinary experience of individual things, and in the fact that we can count or measure them; as well as what is implied in the scientific application of quantity to such objects, and in the rules of quantity considered by themselves. As a complete theory of knowledge must explain the possibility of the various kinds of knowledge which we undoubtedly possess, it must be shown how we come to know individual objects, and to apply quantitative relations to them. Philosophy has therefore at once to justify the universality and necessity of mathematical propositions, and to explain by what right mathematics is applied to individual things. The possibility of mathematics, regarded simply as a science determining the relations of space and time, has been explained in the *Æsthetic*, where it was pointed out that space and time are *a priori* forms of perception. The general result of the *Æsthetic* is to show: (1) that the demonstrative character of mathematical judgments arises from the fact that these rest upon specifications of the forms of space and time, which belong to the constitution of our perceptive faculty, and (2) that mathematical judgments are not mere analyses of preëxisting conceptions of numbers, figures, etc., but are synthetical judgments resting upon the active construction of numbers and figures themselves. But the elements of knowledge implied in mathematical propositions, and in their application to individual objects, can only now be completely set forth. For in these there are implied, not only the forms of space and time, but certain pure conceptions or categories. It should be observed that the question as to the application of mathematics has nothing to do with our reasons for determining special objects by mathematical formulæ; we are not asking, for example, how we can determine the distance of the sun from the earth, but simply how we are entitled to apply the category of quantity to any object whatever in space. In answering this question, philosophy abstracts in the meantime from the actual relations of things to each other, as well as from the concrete properties of things, and from the specific determinations of space and time. It has to point out what is implied in the knowledge of any individual object of perception; but it does not seek to determine what are the specific differences of objects. These differences may be summarily expressed by the term "manifold," and, as this manifold involves a relation to our perceptive faculty, it may be called the "manifold of sense." The meaning of the term "manifold" therefore varies, according as we are referring to the properties of individual things, to their spatial and temporal relations, or to the determinations of space and time themselves. In considering the principles which justify the application of mathematics to phenomena, Kant uses the term in all these senses, but in no case does he mean by it more than what may be called isolated points of perception, that is, mere differences taken in abstraction from their unity. From the point of view, then, of the critical philosophy, the objects of perception are not real external objects, but merely the sensible, spatial, or temporal parts out of which objects are put together. The manifold, *e. g.*, of a house are the spatial parts or the sensible units, which, together, make it an object, and mark it out in space; the manifold of a line are the parts or points, by the successive construction of which the line is determined. This mere manifold, which is really only an abstract element in known objects, is all that is due to perception; the unity of the manifold is contributed entirely by the understanding.

Turning now to the relations of objects, as distinguished from objects themselves, we can see that our problem is somewhat changed. So far we have supposed real things to be known; now we must inquire what justification there is for that assumption. Granting that we can prove all objects in space and time to have extensive and intensive quantity, we must still ask on what ground we affirm that there are real substances, real sequences, and real coexistences. There can be no doubt that, in our ordinary consciousness, we have the conceptions of substance, cause, and reciprocity; but philosophy must be able to show that these conceptions have an application to real objects. Our question, then, is as to the possibility of ultimate rules or principles of judgment, which are at the same time fundamental laws of nature. In those universal principles, which the scientific man assumes in all his investigations, and which form the prolegomena to scientific treatises, we have indeed a body of universal truths; but they are limited in their application to external nature. Our aim is, on the other hand, to discover and prove the objective validity of the principles which underlie nature in general, as including both external and internal objects; or, what is the same thing, to show that there are synthetical judgments belonging to the constitution of our intelligence, which account, and alone account, for the existence and connection of real objects.

In accordance with the distinction of individual objects and the relations of individual objects, the principles of judgment naturally separate into two groups, which we may distinguish respectively as the *mathematical* and the *dynamical* principles. Following the clue of the categories, we find that these groups again subdivide into two sets of propositions. Mathematical principles prove (1) that individual perceptions, whether these are simple determinations of space and time, or concrete objects, are extensive quanta, and (2) that in their content individual objects have intensive quantity or degree. In the dynamical principles it is shown (1) that there are real substances, real sequences, and real coexistences, and (2) that the subjective criteria of knowledge are the possibility, the actuality, or the necessity of the objects existing in our consciousness.

From what has been said, it will be easily understood why Kant divides the principles of judgment into two classes, the mathematical and the dynamical. The former are not mathematical propositions, but philosophical propositions, formulating the process by which the axioms and definitions of mathematics are known and applied to concrete objects. For the method of philosophy is quite distinct from the method of mathematics. The mathematician immediately constructs the lines, points, and figures with which his science deals, and only in that construction does he obtain a conception of them. The proposition that a straight line is the shortest distance between two points is not obtained by the analysis of the conception of a straight line, but from the actual construction of it as an individual perception. The axioms and definitions of mathematics are, therefore, immediately verified in the perception or contemplation of the objects to which they refer. Philosophy, on the other hand, must show how there can be conceptions which yet apply to perceptions; how, for example, we are justified in saying that there is a real connection between events. Any direct reference to immediate perception is here inadmissible, for from such perception no universal proposition can be derived. The two principles, that "all perceptions are extensive quanta" and that "the real in all phenomena has intensive quantity or degree," are called mathematical, because they justify the assumption that the axioms and definitions of mathematics are necessary, and, at the same time, because they account for the application of mathematics to individual things. As to the first point, the axioms in mathematics rest upon the immediate perception of the object constructed by the determination of space and time. And, while the necessary truth of such axioms admits of no doubt, philosophy, having undertaken the task of showing the relation of intelligence to all its objects, must be able to point out what in the constitution of intelligence gives them their binding force. The axioms of perception, therefore, express in the form of a proposition the supreme condition under which mathematical axioms stand; showing that, unless the mind, in constructing the pure perceptions on which those axioms rest, possessed the function or category of quantity, there could be no necessity in a mathematical proposition. "Even the judgments of pure mathematics in their simplest axioms are not exempt from this condition [the condition that synthetical judgments stand under a pure conception of the understanding]. The principle that a straight line is the shortest distance between two points presupposes that the line is subsumed under the conception of quantity, which certainly is no mere perception, but has its seat in the understanding alone." Besides showing the possibility of mathematical propositions, the axioms of perception and anticipations of observation justify the application of mathematics to known objects. A complete theory of knowledge must evidently explain why the ideal constructions of the mathematician hold good of actual objects in the real world, for the propositions of mathematics might be true in themselves, and yet might have only the coherence of a well-arranged system of fictions. In showing how there can be a knowledge of the laws of nature, we must, therefore, explain what justifies the scientific man in making free use of the conclusions of mathematics. Now, there is a distinction between the way in which we establish the truth of the mathematical and the dynamical principles respectively. In both cases we have to show that the pure conceptions of the understanding apply to real objects. But, in the case of the mathematical principles, we deal directly with individual objects as immediately presented to us, without making any inquiry into the connection of these objects with each other, or into their relations to a knowing subject. This is the reason why the categories of quantity and quality, unlike those of relation and modality, have no correlates. Taking individual perceptions just as they stand, without seeking for any law binding them together, we necessarily exclude all relation. To prove the mathematical principles, we must show that they rest upon, and presuppose, the categories of quantity and quality; but this we can do simply from the contemplation of the immediate determinations of space and time; and hence the evidence for them may be said to be direct or intuitive. And as these principles, in referring to immediate unrelated objects of perception, show how the parts of the object are put together, they may be called *constitutive*, in distinction from the dynamical principles, which, as binding together concrete objects already constituted as concrete, may properly be called *regulative*. Every object of perception must conform to the mathematical principles, since these show what are the essential conditions without which there could be no individual objects for us. The dynamical principles, again, are not principles of dynamics, such as Newton's three laws of motion; for these, while they are necessarily true, do not reach the universality of principles of judgment, but apply only to corporeal existences. The dynamical principles are so called because they express the ultimate conditions, without which there could be no science of nature at all. The Analogies and Postulates are dynamical, because they show how we can account for the relations of objects to each other, or to the subject knowing them. Thus, when it is said that matter has repulsive and attractive forces, it is evidently presupposed that one material object acts upon another, and hence that there is a causal connection between them. The justification of this assumption of real connection is the task of philosophy. Now, this cannot be done by directly bringing the immediate objects of perception under the categories of relation and modality. For the dynamical principles do not hold good of perceptions simply as such, but involve the connection or relation of such perceptions. Hence they cannot, like mathematical principles, be directly proved. The mere fact that individual objects, to be known at all, must be known as in space and time, shows that they must conform to the nature of space and time, and must therefore admit of the application of mathematical formulæ to them; but it does not show that they must be connected with each other. Hence, in the proof of the dynamical principles, it is necessary to show that real objects are something more than immediate perceptions, that real events cannot be immediately apprehended, and that the coexistence of real objects is not accounted for, if we suppose them to be directly perceived or contemplated. The real existence, therefore, of known objects, which it was not necessary to inquire into in the proof of the mathematical principles, comes directly to the front in the investigation of the reality and connection of objects.

The first step toward a full comprehension of the Principles of Judgment is to realize with perfect clearness that Kant does not, in the fashion of a dogmatic philosopher, separate absolutely between nature and intelligence, things and thoughts, sense and understanding. Unless we put ourselves at the right point of view, and make perfectly clear to ourselves the necessary relativity of the known world and the world of knowledge, the reasoning of Kant must seem weak, irrelevant, and inconclusive. That Dr. Stirling has not done so seems to me plain from the fact that he supposes those principles to be abstract rules, which are externally applied to knowledge independently supplied by the senses. The net result of the *Æsthetic*, as I understand Dr. Stirling, to say is, that space and time, together with the objects contained in them, are not realities without, but ideas within. And from the *Analytic*, taken in conjunction with the *Æsthetic*, we further learn that sense gives us a knowledge of individual facts or objects, but only in the arbitrary order of a mere succession in time; while the understanding brings those facts or objects under the categories, and so makes necessary or objective what before was merely arbitrary or subjective. On the one side, therefore, we have the "manifold of sense," a term which is applied not to "a simple presentation alone, but even to such compound presentations as the phenomena in any case of causality;" on the other side we have the rule of judgment, under which the manifold is subsumed. And Dr. Stirling objects, with manifest force and conclusiveness, that this account of the relations of sense and understanding is untrue, and the proofs of the various principles utterly inconclusive, since no rule of judgment could possibly make any succession of perceptions necessary, unless there were already necessity in the perceptions themselves.

I accept unreservedly this criticism of Kant's theory, as interpreted by Dr. Stirling. If sense gives us a knowledge of real objects, facts, or events, it is perfectly superfluous, and worse than superfluous, to bring in the faculty of thought to do that which has been done already. First to attribute knowledge to one faculty, and then to introduce a new faculty to explain it over again, is sure evidence of the failure of a philosophical theory to accomplish the end for which it was designed. But I cannot believe Kant to have blundered in this fashion. The vigorous blows which Dr. Stirling believes himself to be showering upon Kant, really fall only upon a simulacrum which he has fashioned for himself out of Kant's words read in a wrong sense. It is as well at least that it should be distinctly understood that, in accepting Dr. Stirling's *interpretation* of Kant's theory of knowledge, we at the same time commit ourselves to his radical *condemnation* of it. For my own part, I must decline to follow Dr. Stirling either in his interpretation or in his condemnation.

It is not, as I venture to think, a fair representation of the *Æsthetic* to say that it merely makes space and time, and the objects in them, ideas within the mind, instead of actual realities without the mind. I find it difficult to attach a precise meaning to such language as, that "we know an actual outer space, an actual outer time, and actual outer objects, all of which are . . . things in themselves, and very fairly perceived by us in their own qualities." This may mean that space and time, together with individual objects and events, are completely independent in their own nature of all relation to intelligence. It may be, in short, an acceptance of the common-sense realism which one is accustomed to associate with the name of Dr. Reid. In that case, I prefer Kant to Dr. Stirling. But if the meaning is, as I am fain to think, that space, time, and concrete things are not dependent for their reality upon *us*, although they are relative to intelligence, I do not understand why Kant should be so strongly rebuked for making space and time forms of perception instead of sensible things. One may surely reject the subjectivity of space and time, and yet see in the *Æsthetic* a great advance on previous systems. A theory may have in it an alloy that lessens its absolute value, and may yet contain a good deal of genuine gold. Kant's view of space and time, were it only for the necessity it lays upon us of conceiving the problem of knowledge from an entirely new point of view, and of seeking for a theory truer than itself, possesses an importance difficult to over-estimate. I do not see how any one who has undergone the revolution in his ordinary way of thinking, which the critical philosophy, when thoroughly assimilated, inevitably effects, can any longer be contented simply to announce that space and time are realities, without feeling himself called upon to explain at the same time what relation they bear to intelligence. Ordinary realism, and its offspring, psychological idealism, have received their death-blow at Kant's hands, and no attempt to resuscitate them can be of any avail. Kant himself, at least, was firmly convinced that, in maintaining space and time to be forms of our intelligence on its perceptive side, he was initiating a reform of supreme importance in philosophy. Dr. Stirling speaks of Kant's doctrine of the external world exactly as if it were identical with the sensationalism of such thinkers as Mr. Huxley and Mr. Spencer. But it is surely one thing to say that space and time are given to us in feelings set up in us by an object lying beyond consciousness, and another thing to say that they belong to the very constitution of our intelligence in so far as it is perceptive. If space and time are forms of perception, we can no longer go on asking how a world of objects lying beyond the mind gets, in some mysterious way, into the mind. Kant never, in his philosophical theory, makes any attempt to prove the special facts of our ordinary knowledge, or the special laws of the natural sciences; these he simply assumes as data which it is no business of his to establish. But, although he leaves the concrete world just as it was before, he does not leave the philosophical theory commonly put forward to explain it just as it was. From the critical point of view, things can no longer be regarded as unintelligible abstractions, as they must be in any theory which, by extruding them from the inner circle of knowledge, virtually makes them unknowable; being brought into relation with our intelligence, there is no barrier to their being known and comprehended. I cannot see that it is doing Kant justice simply to say that space and time, and the objects filling them, which before were without the mind, are by him brought within the mind. He certainly holds them to be "within," but they are within, not as transient feelings, but as permanent and unchangeable constituents of knowledge, belonging to the very nature of *human* intelligence. Omit the "human," and we have a view of the external world which is consistent with its reality in the only intelligible meaning of the term, and which yet denies space and time to be subjective any more than objective. Kant here, as always, is greater than he was himself aware of, and that seems to me criticism of a very unsympathetic and uninstructive sort which closely scans the mere outward form of his theory, and fails to see behind the form an idea rich in suggestiveness and far-reaching in its issues.

Dr. Stirling's appreciation of the *Æsthetic* seems to me to be inadequate; his view of the relations of sense and understanding, as expounded in the *Analytic*, I regard as a complete inversion of the true view. The objects of sense fall completely apart from the forms of thought. A broad distinction is drawn between perceptions and judgments about perceptions, and sense is supposed to have completed its work before thought begins to operate. The *Critique* we must, therefore, regard as a Phenomenology, tracing the successive phases through which our knowledge passes on its way to necessary truth. All our knowledge is at first simply an immediate apprehension of special facts, coming to us without order or connection; and only afterwards, when thought brings into play its schematized categories, is necessity imposed upon our perceptions. I maintain, on the contrary, that sense does not give a knowledge of individual objects, facts, or events; that of itself it gives us no knowledge whatever; and that understanding does not externally impose necessity upon perceptions, but is essential to the actual constitution of known objects, facts, or events. The *Critique* I therefore regard, not as a Phenomenology, but as a Metaphysic, *i. e.*, as a systematic account of the logically distinguishable, but not the less real, elements that together make up our knowledge in its completeness. The importance of the issue at stake may perhaps excuse the repetition of some points I have already tried to explain.

The *Critique* may almost be said to part into two independent halves, in the first of which Kant speaks from the ordinary or uncritical point of view, and in the second of which he advances to the critical, or purely philosophical point of view. This implicit division arises partly from the fact that, as Kant never attempts to prove a single qualitative fact or special law of nature, in referring to the data which he has to explain, he naturally speaks in the language of everyday life, and, therefore, seems to be accepting the common-sense view of things; but it partly arises also from his accepting the account of the process of knowledge given in formal logic as true outside of the sphere of philosophy proper. According to the ordinary conception of our knowledge of things, sense immediately reveals to us actual objects lying outside of our consciousness, and passively taken up into it. In speaking of the facts demanding philosophical explanation, Kant does not, as he might have done, deny this assumption at the very threshold of his inquiry, but seeks gradually to undermine it by showing the conclusions to which it leads. Moreover, Kant's own theory of knowledge harmonizes with the ordinary view in these two points: (1) that sense or feeling supplies to us all the concrete element in our knowledge of external objects, and (2) that it also reveals to us the particular feelings belonging to ourselves as individuals. Notwithstanding this partial agreement, however, the divergence of criticism and dogmatism is radical and complete. For it is one thing to say that sense contributes the concrete *element* in knowledge, and quite a different thing to say that it gives us a knowledge of concrete *objects*. The latter statement is only true of sense, understood in the loose and popular meaning of the term, as when we speak of "sensible objects," or the "world of sense." Taken simply as an expression of the *fact* that we have a knowledge of external objects apparently by immediate apprehension of them, such language may be allowed to pass; but, in the philosophical meaning of the term, sense is a name for the particular, not for the individual. This follows directly from Kant's conception of space and time as forms of perception, not realities perceived. So long as these forms were supposed to be actual realities existing in themselves, apart from any relation to us, it seemed correct enough to say that by sense we directly receive into our minds at once individual objects, and the space and time in which they are contained. But, if space and time are not realities without our consciousness, but potential forms coming into existence for consciousness on occasion of knowledge, it is evident that our view of the relation of objects to knowledge must be radically changed, and therefore our view of that which belongs to sense as distinguished from thought. Things which exist beyond our consciousness cannot be contained in space and time, which exist only within consciousness. The distinction of the inner from the outer world is no longer a distinction of ideas within the mind, and material or actual realities without the mind; internal feelings and external objects are alike within consciousness, being logically distinguishable, but not really separable. The contrast of internal and external objects arises, so far as sense is concerned, from the fact that external objects are informed by space as well as by time, while our internal life passes in time alone; but otherwise our perceptions, and what we know as objects of perception, are composed of the same elements. Knowledge always comes to us in successive apprehensions; and this is true, whether we look at our feelings as in time, or at known objects as in space. Now, as sense is the faculty by which we immediately contemplate the particular taken by itself, it contributes a mere "manifold," which is not yet an individual object, but only the sensuous material for such an object. On the internal side we have a series of feelings, perpetually coming and going, and, therefore, destitute of universality, unity, or connection. Isolate this mere series, as the dogmatist does, from objects in space, and these feelings are not knowable even as a series. On the other hand, separate the external from the internal, and the former becomes unknowable and unintelligible. This is the sum of the *Refutation of Idealism.* Sense, therefore, while it contributes the particulars implied in our actual knowledge of objects, cannot of itself give us any knowledge whatever. We might as well claim that, from the mere form of space or time, we can know definite objects as hold that the special senses reveal to us concrete things. The dogmatist makes the problem of knowledge very easy for himself by assuming that we immediately apprehend actual objects; the *actuality* he assumes, and the *knowledge* of actuality he figures to himself as a direct glance of sense. But, now that sense is seen to be capable of supplying only a series of unconnected particulars, a new mode of explanation must be adopted. The actuality of things must be explained, and not simply assumed; and the manner in which the mere particularity of sense becomes for us the knowledge of individual objects must be shown. The individuality of things, so far as sense is concerned, vanishes with their supposed independence of our intelligence, and we are left, by the progress of philosophical reflection, with a mere "manifold of sense," an unconnected congeries of particulars, entirely destitute of unity, connection, or system. To explain our actual knowledge of objects and of their connections with each other, we require to produce the universal element belonging to our intelligence, by the action of which on the particulars of sense real knowledge takes place. We have discovered the faculty of differences; we must now show what is the faculty of unity, and how it produces the various kinds of unity which we can see to be implied in our actual knowledge.

It will be evident from what has been said how Dr. Stirling has been led to suppose that Kant regards sense as giving us a knowledge of individual objects or facts. Unless we resolutely keep before our minds the fact that the *Critique* is an analysis of the logical constituents of our actual knowledge, and not on account of the temporal stages, by which the individual and the race advance to knowledge of the highest kind, we shall inevitably confuse the popular with the critical point of view. When he is leading up to his own theory, and simply stating the facts he has to explain, or when he is criticising the dogmatic theory of his predecessors, Kant naturally speaks as if sense immediately reveals to us special objects or events. From the philosophical point of view, however, sense he conceives of as the faculty which supplies to us the isolated differences which thought puts together and unites into individual objects or connections of objects. The "manifold of sense" is, therefore, simply that element in knowledge which supplies the particular differences of known objects. And these differences, of course, vary with the special aspect of the known world which at the time is sought to be explained. In the Axioms of Perception, for example, in which Kant is seeking to show that individual objects in space and time are necessarily extensive *quanta*, the special fact of knowledge to be explained is the apprehension of objects as made up of parts forming individual aggregates. These parts Kant regards as directly perceived or contemplated. The "manifold" may be the parts of a line, the parts of any geometrical figure, or even particular figures regarded as constituents of more complex perceptions; or, again, it may be the parts of individual objects in space. But in all of these cases the particulars, as due to sense, are, when taken by themselves, mere abstractions; they are, in fact, not even known *as* particulars apart from the synthetic activity of imagination, as guided by the category of quantity. To have a knowledge of the parts of a line, or the parts of a house, as parts, is to know at the same time the combination of those parts. But the combination takes place for us only through the act by which we successively determine space to particular parts, and in that determination combine them. Thus, in the knowledge of the line, there are implied both the particular element of sense and the universal element of thought. We do not *first* perceive the line and *then* apply the category, but, *in* perceiving the line, we apply the category. · And, as in all recognition of objects in space we necessarily determine the particulars of sense through the schema, as silently guided by the category, we may express this condition of our knowledge in the proposition, "All percepts are extensive *quanta*." This proposition, therefore, rests upon a discrimination of the elements which we are compelled to distinguish in explaining how we know any individual object to be a unity of parts; it is not a proposition which we acquire by reflection *before* we know objects to be extensive *quanta*. Observing that all external objects which we can possibly know must be in space, and having seen space to be a necessary form of thought, we can say axiomatically that *every* percept is an extensive *quantum;* but this proposition is not one which *precedes* the knowledge of objects as *quanta*, but one which is required to explain the fact of such knowledge. On Dr. Stirling's view, sense gives us a knowledge of individual objects as extended, and thought "varnishes" this knowledge with necessity. How Kant could possibly suppose sense to give us the perception of things in space, without at the same time determining these as extensive *quanta*, I am unable to understand. But, in truth, Kant makes no such supposition; what he holds is that spatial objects are known as extensive *quanta* in the act by which the productive imagination determines their parts successively, under control of the category of quantity. The necessity is implied in our actual knowledge, and philosophical reflection merely shows it to be there.

The "manifold," again, assumes a different aspect when Kant goes on to deal with the dynamical principles. Here the question is no longer in regard to the quantitative parts of external objects, but in regard to the philosophical justification of the permanence, the causal connection, and the mutual influence of these objects. In our ordinary and scientific knowledge we take it for granted that we know real objects, which do not pass away with the moment, but persist or are permanent. Permanence, in fact, is the mark by which we ordinarily distinguish actual existences from passing feelings or creations of the imagination. To show philosophically how this assumption is justified from the nature of our intelligence is the object of the First Analogy of Experience. Now, the ordinary explanation of the permanence or actuality of an external object is, that we simply see, apprehend, or observe the object, and immediately know it to be permanent. But the consequence of this assumption, as the psychological idealist has seen, is that the actual object itself is not apprehended or perceived at all. So far as the theory can show, we have indeed a consciousness of ideas or feelings supposed to represent actual objects, but we do not really come in contact with those objects themselves. Kant, taking up the problem at this stage, points out what is really implied in a series of feelings or ideas, and from this he shows the necessity of the action of thought on sense for the knowledge of actual objects as permanent. The "manifold" here is individual objects regarded simply as revealed in the direct glance of sense. If we immediately apprehend or perceive objects to be permanent, we cannot have more before us than separate percepts, coming the one after the other. I open my eyes and see a house; I move my eyes and see a tree, then a mountain, etc.; but I cannot, as is usually supposed, see the house, tree, mountain, etc., to be permanent substances. At each successive moment a fresh presentation of sense comes before me; and, as immediate apprehension does not go beyond the moment, I can say nothing about objects when they are not actually present. Thus, the ordinary explanation of the permanence of things really reduces actual objects to successive affections or feelings, coming and going like the phantasms of a dream. They are a mere "manifold of sense," a number of unrelated feelings, really incapable of revealing to us any actual or permanent thing. The true explanation of the fact that we have a knowledge of permanent external things or substances must bring in an element quite distinct from sense, and this is the element of thought. The mere isolated particulars of sense never could give us a knowledge of actual objects; only thought in conjunction with the manifold of sense can do so. Kant, then, does not, as Dr. Stirling supposes, hold that sense first gives us a knowledge of actual things, while thought comes after and makes this special knowledge universal and necessary. On the contrary, he argues that if we are to explain the actual fact that we do have a knowledge of permanent things, we must *not* say that sense gives us a knowledge of real substances, but, on the contrary, that it supplies only the particular differences of things, leaving to thought, in conjunction with the imagination, the combination or unification of those differences. Kant simply shows, by an inquiry into the mental conditions, without which a given kind of knowledge would be impossible, what are the logically distinguishable elements in that knowledge; and to convert such purely metaphysical distinctions into temporal phases in the development of our knowledge is to turn his theory upside down.

A proper comprehension of the way in which criticism transforms the dogmatic or psychological conception of the nature of sense makes the corresponding transformation of the ordinary view of the nature of thought easily intelligible. As sense supplies the particular element in knowledge, so thought reduces the particular to unity. From the dogmatic point of view, judgment is always a process of analysis. Kant does not deny that analytical judgments are valuable within their own sphere, but he denies that they in any way enable us to solve the problem of philosophy. For such judgments, valuable as they are in bringing clearly before our minds what we already know in an obscure and half-unconscious way, cannot explain the process by which we obtain a knowledge of actual things and their connections. The analysis of such pure conceptions as substance and cause can never establish the application of these conceptions to real objects, but only brings out explicitly what we mean when we speak of substances or causes. Analytical judgments thus fall outside of the domain of philosophy proper. They rest upon the purely formal principle of contradiction. If we but express in the predicate what is implied in the subject, and do not attach to the subject a predicate inconsistent with it, we conform to the only condition demanded by the analytic judgment. The affirmative proposition, "Body is extended," satisfies this condition, since "extension" is an attribute implied in the conception of "body;" the negative proposition, "Body is not immaterial," is a correct analytical judgment, since it merely excludes from the conception of body an attribute contradictory of it. We can thus see wherein the essential vice of the dogmatic theory of judgment consists. The dogmatist supposes we may establish the objective application of a conception by simply showing that a given judgment is not self-contradictory. Wolff, *e. g.*, thought he could prove the conception of causality to be true of real things, because that conception, when analyzed, yields the judgment, "Whatever is contingent has a cause." But the judgment is purely analytical, only expressing explicitly what is implicit in the conception of the "contingent." How, then, are we to account for the application of conceptions to real things? How, in other words, can we show that there are judgments which are synthetical, and yet rest upon conceptions? This question, insoluble on the dogmatic method, may be answered by the critical method.

We have seen that sense can only contribute the particular element in knowledge, and that the universal element is supplied by thought. A conception, therefore, on which a synthetical judgment is to rest can be nothing but a pure universal, having in it no concrete element. In all thinking which yields real knowledge the particulars of sense must be reduced to unity by being referred to a single supreme self, for, on any other supposition, there would be no unity in our knowledge as a whole. It is nothing to the point that we may not, in our ordinary consciousness, be aware that the self is the supreme condition of any real knowledge. It is enough if we can show that in all knowledge of reality the "I" must be present, and must manifest its presence in the actual fact of knowledge. Certainly, if we take the self apart from its activity, as manifested in knowing, we cannot get beyond the merely analytical judgment, I=I; but, when we seek to explain actual knowledge, we are compelled to see that, were there no identical "I," expressing its activity in uniting the particulars of sense, we could have no connected knowledge. The "I think," or "I unite," is, however, but the general expression of the condition of any real knowledge. But, as all knowing is definite knowing, or the thinking of the real world in specific ways, to intelligence as thinking there must belong universal forms or functions of unity, enabling us to reduce the manifold of sense to definite unity, order, and system. How do we know that to thought there belong such forms or functions? We know it from the fact that in our actual knowledge, the reality of which no one doubts, we do form real judgments. The fact that there are such judgments we do not seek to prove; our object is simply to show what the constitution of our thought must be on supposition of such judgments. Now, if the self is the supreme condition of unity, and the categories the forms potentially capable of reducing the special manifold of sense to specific unities, we can see how real judgments are possible, and what will be their character. A real judgment must be the act by which the categories, as pure universals, come together with the manifold of sense. One other point, however, must be mentioned in order to complete our account of the conditions of real knowledge. All our knowledge comes to us in successive acts, and hence real judgments must operate upon the manifold of sense under the form of time. We must, therefore, explain how actual knowledge is possible, in accordance with the fact that we know real objects and their connection in a series of cognitions. Accordingly, it will be our aim, in setting forth the various classes of real judgments, to point out how the manifold of sense is related to the schemata or general determinations of time.

I have endeavored, in the account just given of the relations of thought and sense, to emphasize the view which I take of the *Critique*, that it is an exposition of the constituent elements which we may logically distinguish in knowledge, not on account of the order in which our knowledge is developed in time. In every recognition of an external object as an extensive or intensive quantity, we bring into operation the categories of quantity and quality respectively, and this we do in the act by which we successively combine the particulars of sense. In our actual knowledge of a given substance, a given connection of events, or given objects as mutually influencing each other, we connect the manifold of sense under the silent guidance of the categories of substance, cause, and reciprocity, and connect them according to their respective schemata. And when we express what is implied in any of these actual cognitions, we are able to state the principle in a universal form, because the categories, as belonging to the very nature of our thinking intelligence, necessarily combine the manifold always in the same way. The principles of judgment are therefore at once philosophical *propositions* and ultimate *laws* of nature. Just as a mathematical judgment is a proposition belonging to the science of mathematics, and at the same time a law manifested in the particular object to which the proposition refers; just as any scientific proposition goes to form the body of the science to which it belongs, and yet formulates a law to which all facts of a certain kind must conform; so the philosophical judgment that "all percepts are extensive *quanta*," or that "in all changes of phenomena substance is permanent," is not only a proposition belonging to the science of philosophy, but a law or principle manifested in our actual knowledge. When Kant speaks of bringing phenomena under a rule of the understanding, he does not mean that we *first* know the phenomena in question, and *then* bring them under the rule, but he means that, unless they were brought under the rule in the act of knowing them, they could not be known as real in the particular way which at the time we have under consideration. When, indeed, we *reflect* upon our knowledge, we express the act by which thought unites the manifold of sense in the form of a rule or proposition; but our reflection does not *create* the rule, but only *recognizes* it. Had not the rule been silently employed in the actual process of knowing the real object or connection, we should never discover it. Did Kant really mean to say that we first know real facts by sense, and afterwards subsume them under conceptions, his polemic against dogmatism would be a huge *ignoratio elenchi;* for, on this interpretation of his theory, the facts known by sense fall completely apart from the conceptions supposed to reduce them to unity, and the possibility of real judgments becomes inexplicable. So miserable a failure in his explanation of knowledge I refuse to attribute to Kant. His real view is that thinking intelligence either constitutes objects as such, or connects objects with each other, by operating upon the detached manifold of sense. In the apprehension of a house, *e. g.*, I must have not only the separate impressions coming to me as my eye runs over it, but I must put together its spatial parts in the act of generating them; and, as the parts are put together under the guidance of the category of quantity, in apprehending the house I at the same time know it as an extensive *quantum.*

Kant makes no attempt to connect together the various principles of judgment; on the contrary, he regards each as independent and complete in itself. And it is easy to understand why he takes this view. Starting as he does from the notion of knowledge as completed, and embodied more especially in the mathematical and physical sciences, he naturally seeks only to demonstrate that such knowledge is inconceivable, if we persist in making an absolute separation of intelligence and nature, instead of conceiving of nature as constituted in its universal aspect by necessary forms of perception and of thought. In seeking to explain the demonstrative certainty of mathematical propositions, and their application to individual objects, and in seeking to show what are the universal laws of nature, he simply takes up one aspect of knowledge after another and points out the intellectual elements involved in each. Dealing, not with the temporal origin of knowledge, but with the logical constituents involved in it, he sets the various elements of knowledge apart by themselves, and combines them in a system, the form of which is chiefly due to his own external reflection. But while Kant does not so much render the "very form and pressure" of thought, as simply place its elements side by side; and while he is very far from tracing out, in all its delicate completeness, "the diamond net" with which intelligence envelops the particulars of sense, his presentation of the various principles of judgment follows half unconsciously, and approximates closely to the natural order of logical evolution. It is well also to observe that, although he speaks of those principles as the highest laws of knowledge, and therefore of nature as a whole, Kant really concentrates his attention on external nature; in fact, he has expressly pointed out that the rules of the understanding are only verifiable in relation to objects in space, as contrasted with the succession of mental states in time. On the other hand, he virtually assumes space to be already determined, and only seeks to show how its parts can become known to us successively. In the first principle, formulating the axioms of perception, he abstracts from all the concrete wealth of the universe, and from all the connections of things, and limits himself to the question as to how space and objects in space are known as in time. And the answer he gives naturally is, that every individual object of perception is an extensive *quantum*, known to us in the successive addition of units, as guided by the unseen influence of the category of quantity. In what other way the external object may be determined, Kant does not here inquire, but confines himself to the proof of the proposition, that no external object is knowable at all without being known as an extensive *quantum.* His next step is to ask whether in the knowledge of external objects there is any universal and necessary characteristic; and he finds that while we cannot anticipate the special properties of things, since these are perpetually changing on us, we can anticipate that all objects capable of being known at all must have intensive quantity or degree. So far the question has not been raised as to what constitutes the reality, the connection and the mutual influence of objects. But this question is forced upon us the moment we make affirmations in regard to the relations of objects. We can no longer refer to our perceptions in proof of the reality of our knowledge. We have therefore to show by what right we assume objects to be permanent and actually connected. In the three Analogies of Experience this question is taken up, and it is proved, first, that the knowledge of real objects involves the application of the category of substance to the manifold of sense through the schema of the permanent; secondly, that the knowledge of real sequences can only be explained, if we presuppose the schema of order in time, as limiting the category to the particular determinations of sensible perception; and lastly, that the knowledge of real external objects, as mutually influencing each other, implies the schema of coexistence in time, as standing under the category of reciprocity. In the Postulates of Empirical Thought, Kant, having now considered external objects as such, and external objects as related to each other, raises the question as to the relation of external things to our thought of them. And the subjective criteria of knowledge he finds to lie in the possibility, the actuality and the necessity of our ideas. The final result of the whole investigation is to reverse completely the ordinary conception of the relations of intelligence and nature. The world of real things is not, as dogmatic philosophy had wrongly assumed, an independent congeries of real things externally taken up into our minds, but a system of objects constituted for us by the activity of our intelligence acting on the particulars of sense.